

Oklahoma State University

Colloquium

Title

Some Interesting Automorphism Groups

Speaker: Kim Ruane, Tufts University
Date: May 5, 2017
Time: 3:30 PM
Room: MSCS 514

Abstract: We discuss the automorphism group of a free product of finitely many copies of cyclic group of order 2. At first glance, this group may seem uninteresting, however I hope my talk will convince you otherwise. For a fixed n , denote this automorphism group by $Aut(W_n)$. We will see that this group is at least as complicated as the braid group on n strands but not quite as complicated as the automorphism group of a free group on $(n-1)$ generators but it is related to both. As with automorphisms of free groups, it is often more useful to study the outer automorphism group (denoted $Out(W_n)$) and so we will do this same with this group. This is analogous to passing to the braid group modulo its center. We will further pass to a finite index subgroup of $Out(W_n)$ and find a group generated by involutions?tempting to think this is a right-angled Coxeter group but it is not as we shall see.

We will discuss what is known and what is not known about these fun groups!